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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/643,981	08/23/2000	Henry H. Cheng	723-845	9922

27562 7590 06/29/2005

NIXON & VANDERHYE, P.C.  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER
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ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/643,981

Applicant(s)

CHENG, HENRY H.

Examiner

Lun-See Lao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05/2001
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Introduction***

1. This action is response to the amendment filed on 04-05-2005. Claims 1-29 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-6, 8-13, 23-24, 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams (US PAT. 5,896,459).

4. Consider claims 1 and 5, Williams teaches a sound effects processing system comprising:

a sound effects processor (see fig.3, 100); and

a mixer comprising (100):

a mixer buffer (see fig3, (100)) for storing sample values for three or more sound channels (see fig3, (such as ch1,ch2...ch n-1, ch-n)), each sound channel including a main sound component (see fig3, (such as ch1,ch2...ch n-1, ch-n (including left and right channel)) and one or more auxiliary sound components ((see fig3, (such as ch1,ch2...ch n-1, ch-n (including auxiliary channel)) which arrows to effects sends (16) and see col.4 lines 40-col.5 line 19));

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send paths (see fig.3,16) for sending the auxiliary sound components (see fig.4, 104, sending L and R channel to 114) for each sound channel to the sound effects processor; and

return paths (see fig.3, 118) from the sound effects processor for respectively adding (see fig.4, mix console, four small dot points on 114, two of them comes from fig.4, 104 left and right channel and two of them comes from fig.4, 106) the effects-processed auxiliary sound components (see fig.4, 208,210) for each channel to the corresponding main sound component (channels left and right, see fig.4, 108 left and right channel. and see col.5 line 20-col.6 line 67).

As to claim 23, this is a method claim responding to system of claims1. Note claim 1 for rejection.

Consider claims 2, 4 and 6, 8, Williams teaches the system of the mixer further comprises:

mixer volume controls for independently controlling the volume of the main and auxiliary sound components of each sound channel supplied to the mixer buffer (see col.5 line 20-col.6 line 67); and the system of the sample values for three or more sound channels are accumulated for a plurality of voices (see figs 3-4 and col.4 line 40-col.5 line 20).

As to claims 24 and 26, these are the method claims of claims 2 and 4. Thus note claims 2 and 4, respectively, for rejections.

Consider claims 9-11, Williams teaches the system of the sound effects processor provides reverb to the auxiliary sound components for each sound channel (see col.4

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lines 34-57); and the system of the sound effects processor 2 provides delay to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor provides chorus to the auxiliary sound components for each sound channel (it may provide chorus, because etcetera and see col.4 lines 40-57).

As to claims 27-29, these are the method claims of claims 9-11, respectively. Thus note claims 9-11, respectively, for rejections.

Consider claims 12-13, Williams teaches the system of the sound effects processor processes the auxiliary sound components for each sound channel using the same sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67); and the system of the sound effects processor processes the auxiliary sound components for each sound channel using different sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 7 and 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (US PAT. 5,896,459) in view of applicant's admitted prior art.

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Consider claims 3 and 7, Williams does not clearly teach the system of the mixer further comprises a surround encoder, and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed auxiliary sound components added to the surround channel, onto the left and right sound channels.

However, Applicant's admitted prior teaches the system of the mixer further comprises a surround encoder (see fig.11b, (surround encoding)), and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed (1004) auxiliary sound components added to the surround channel, onto the left and right sound channels (see specification page 3 lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of applicant's admitted prior art into Williams to provide an enhancing audio outputs for audio mixer.

As to claim 25, this is a method claim responding to system of claims 3. See previous system claim 3 for rejection.

7. Claims 14-15, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneoka (US PAT 4,783,812) in view of Williams (US PAT 5,896,459).

Consider claim 14, Kaneoka teaches a video game system comprising:

a video game machine (see fig.1, 14) for executing a video game program; and

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a hand-held player controller (14) connected to said video game machine (14) and operable by a player to generate video game control signals for the video game program (see col. 4 line 23-col. 5 line 25),

wherein said video game machine includes an audio system for generating sound signals for driving speakers, said audio system comprising (see col.3 line 45-col.4 line 64); but Kaneoka does not teach a sound effects processor; and a mixer comprising:

a mixer buffer for storing sample values for three or more sound channels, each sound channel including a main sound component and one or more auxiliary sound components;

send paths for sending the auxiliary sound components for each sound channel to the sound effects processor; and

return paths from the sound effects processor for respectively adding the effects-processed auxiliary sound components for each channel to the corresponding main sound component.

However, Williams teaches a sound effects processing system comprising:

a sound effects processor (see fig.3, 100); and

a mixer comprising (100):

a mixer buffer (see fig3, (100)) for storing sample values for three or more sound channels (see fig3, (such as ch1,ch2...ch n-1, ch-n)), each sound channel including a main sound component (see fig3, (such as ch1,ch2...ch n-1, ch-n (including left and right channel))) and one or more auxiliary sound components ((see fig3, (such as

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ch1,ch2...ch n-1, ch-n (including auxiliary channel)) which arrows to effects sends (16) and see col.4 lines 40-col.5 line 19))

send paths (see fig.3,16) for sending the auxiliary sound components (see fig.4, 104, sending L and R channel to 114) for each sound channel to the sound effects processor; and

return paths (see fig.3,118) from the sound effects processor for respectively adding (see fig.4, mix console, four small dot points on 114, two of them comes from fig.4,104 left and right channel and two of them comes from fig.4,106) the effects-processed auxiliary sound components (see fig.4, 208,210) for each channel to the corresponding main sound component (channels left and right, see fig.4, 108 left and right channel. and see col.5 line 20-col.6 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Williams into Kaneka to provide separating dry, effects and main mixes that is compact, easy to operate and efficient to use.

Consider claim 15 and 17, Williams teaches the system of the mixer further comprises:

mixer volume controls for independently controlling the volume of the main and auxiliary sound components of each sound channel supplied to the mixer buffer (see col.5 line 20-col.6 line 67); and the system of the sample values for three or more sound channels are accumulated for a plurality of voices (see fig.2 and col.4 line 40-col.5 line 20).



Consider claims 18-20, Williams teaches the system of the sound effects processor provides reverb to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor 2 provides delay to the auxiliary sound components for each sound channel (see col.4 lines 34-57); and the system of the sound effects processor provides chorus to the auxiliary sound components for each sound channel (it may provide chorus, because etcetera and see col.4 lines 40-57).

Consider claims 21-22, Williams teaches the system of the sound effects processor processes the auxiliary sound components for each sound channel using the same sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67); and the system of the sound effects processor processes the auxiliary sound components for each sound channel using different sound effects parameters (may be, depends on fig.4, mix console and see col.6 line 55-67).

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneoka (US PAT. 4,783,812) as modified by Williams (US PAT 5,896,459) as applied to claim 14 above, and further in view of Applicant's prior art.

Consider claim 16, Kaneoka and Williams do not clearly teach the system of the mixer further comprises a surround encoder, and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed auxiliary sound components added to the surround channel, onto the left and right sound channels.

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However, Applicant's prior teaches the system of the mixer further comprises a surround encoder (see fig.11b, (surround encoding)), and the mixer buffer comprises left, right and surround sound channels and the surround encoder encodes information on the surround sound channel, including the effects-processed (1004) auxiliary sound components added to the surround channel, onto the left and right sound channels (see specification page 3 lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kaneoka and Williams into the teaching of applicant's prior art to provide an enhancing audio outputs for audio mixer.

### ***Response to Arguments***

9. Applicant's arguments filed on 04-05-2005 have been fully considered but they are not persuasive.

10. Regarding applicant's argument that Williams fails to disclose a main sound component and one or more auxiliary sound component (remarks, page 15 last paragraph), the examiner respectfully disagrees. Williams teaches the sound channels each of which includes a main sound component (see fig3, (such as ch1,ch2...ch n-1, ch-n (including left and right channel)) with arrows to dry mix (110)) and one or more auxiliary sound component ((see fig3, (such as ch1,ch2...ch n-1, ch-n (including auxiliary channel)) with arrows to effects sends to (116). See col.4 lines 40-col.5 line 19.

Applicant further argued that Williams fails to disclose sending the auxiliary sound components of each of a plurality of sound channels to a sound effects processor and

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then adding these effect-processed auxiliary sound components to corresponding main sound components (remarks page 16 second paragraph), the examiner respectfully disagrees. Williams teaches sending the auxiliary sound components (see fig.4. from dry mix (104) sending left and right auxiliary sound components pass 194 (buffer amplifier) to 144 (left and right channel)) of each of a plurality of sound channels to a sound effects processor (see effects mix 106 returning left and right channel (112) pass 192 to 114) and then adding (see 114, 4 dots, two coming from 104 and the other two from 106) these effect-processed auxiliary sound components to corresponding main sound components (such as mix signal 108 left and right channel). See col.5 line 20- col.7 line14. Therefore, Williams meets the limitations as claimed.

### ***Conclusion***

**11. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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12 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Norihiko (JP-406189399) is recited to show other related the Method and apparatus for mixing sound signals.

13. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:  
**(703) 872-9306**

Hand-delivered responses should be brought to:  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

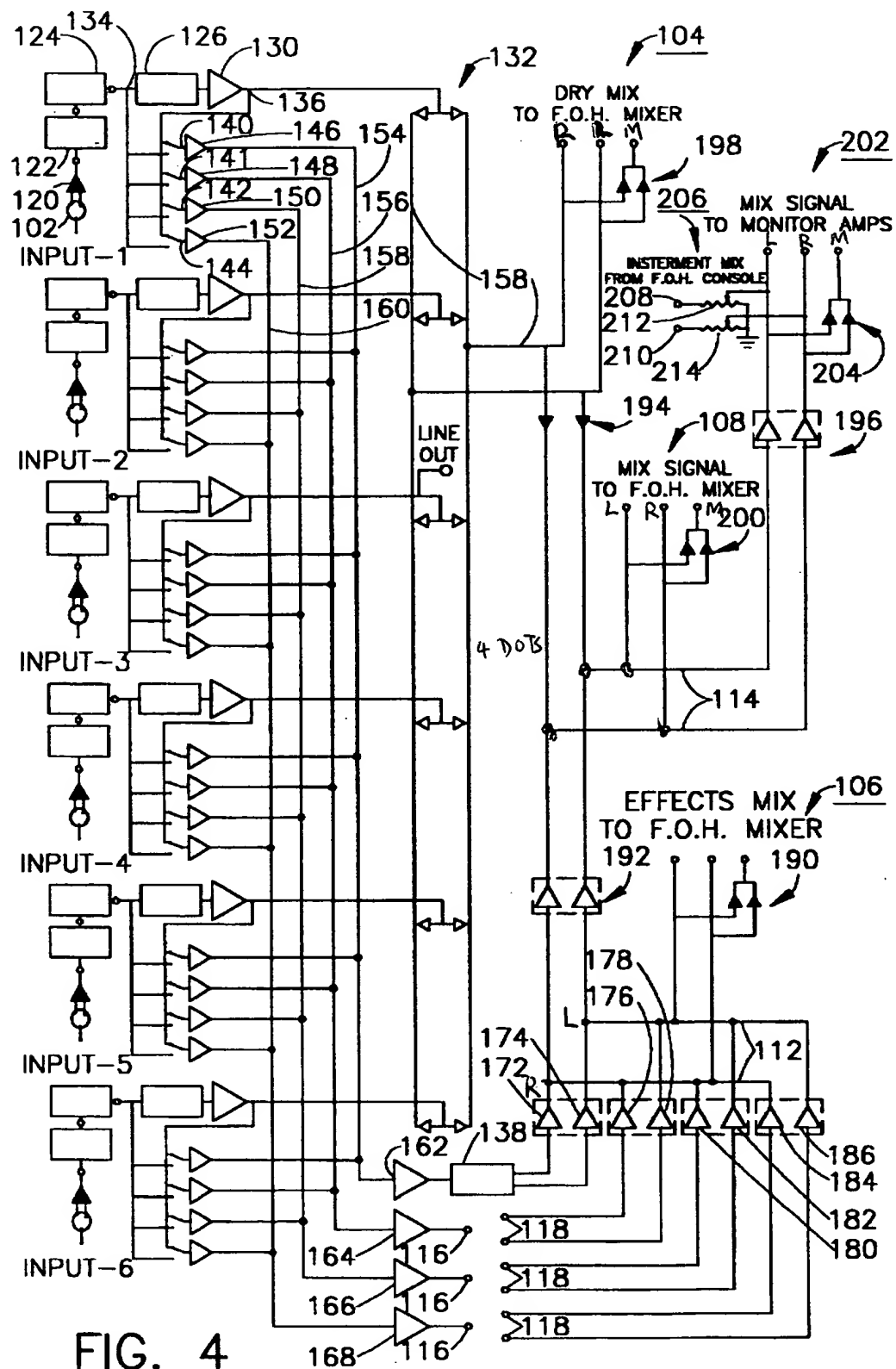
Lao, Lun-See  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501

Date 06-23-2005

  
**VIVIAN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**

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